UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: **September 22, 2005**

SUBJECT: Review of the Quality Assurance Project Plan (QAPP) for the San Juan Harbor Dredged Material Characterization for Disposal at the San Juan Ocean Dredged Material Disposal Site (ODMDS)

FROM: Carol L. Lynes, Environmental Scientist
Monitoring and Assessment Branch

TO: Mark Reiss, Program Manager
Community & Ecosystems Protection Branch

As requested, I have reviewed the Quality Assurance Project Plan (QAPP) for the San Juan Harbor Dredged Material Characterization. My comments are attached.

The QAPP was reviewed to the requirements specified in the Evaluation of Dredged Material Proposed for Ocean Disposal – Dredged Material Testing Manual, February 1991 (USEPA) hereafter referred to as the Green Book, the Regional Guidance For Performing Tests On Dredged Material Proposed For Ocean Disposal (USEPA/USACE-NYD, December 1992 with modifications), hereafter referred to as the Regional Testing Manual (RTM), and for consistency with previous dredged material characterization QAPPs submitted by PPB Environmental Laboratory, Inc.

The comments provided in the attachment are for QAPP Sections 1 through 3, as indicated. Section 4 was given a cursory review by Jim Ferretti, Aquatic Toxicologist. It was determined that Section 4 comments from previous QAPPs were never addressed and that the comments submitted to PBB Environmental Laboratory, Inc. for Section 4 remain the same for this QAPP.

If you have any questions, please feel free to contact me at 732-321-6760 or lynes.carol@epa.gov.

Attachment

San Juan Harbor Dredged Material Characterization
Quality Assurance Project Plan
Received June 30, 2005

The QAPP was reviewed to the requirements specified in the Evaluation of Dredged Material Proposed for Ocean Disposal – Dredged Material Testing Manual, February 1991 (USEPA) hereafter referred to as the Green Book, the Regional Guidance For Performing Tests On Dredged Material Proposed For Ocean Disposal (USEPA/USACE-NYD, December 1992 with modifications), hereafter referred to as the Regional Testing Manual (RTM), and for consistency with previous dredged material characterization QAPPs submitted by PPB Environmental Laboratory, Inc.

The comments provided below are for QAPP Sections 1 through 3, as indicated. Section 4 was given a cursory review by Jim Ferretti, Aquatic Toxicologist. It was determined that Section 4 comments from previous QAPPs were never addressed and that the comments submitted to PBB Environmental Laboratory, Inc. for Section 4 remain the same for this QAPP.

Section 1
San Juan Harbor Sediment Sampling Plan and Protocol

Evaluation Needs, page 1 of 29:
There is no indication in this section that a Tier I Evaluation was performed to identify the contaminants listed for the Tier II Evaluation, yet later Sections suggest that a Tier I Evaluation was performed. This must be clarified and any historical evaluations documented.

Sampling Plan Design:
Project Coordination and Quality Assurance, page 3 of 29 - Items that were included by PPB in previous QAPPs are eliminated in this QAPP. These items include a project initiation meeting to ensure all project personnel and sub-contractors understand their roles and assigned tasks, self Quality Assurance (QA) audits or assessments, and final report reporting requirements. See the attached checklists.

Harbor Stations and Harbor Sediment Samples, page 16 of 29

- The classification of sediment stratification was not provided. Provide information on how the various stratified sediment layers (sand, silt, and clay) will be handled during sampling.
- Oil and grease are indicated in the evaluation needs section but not mentioned in the testing for composite samples.

Site Water Station, page 16 of 29
The last sentence in this sub-section seems misplaced: "After transport of all samples of a given Reach…."

Table 3. Sample Holding Times, Container Types and Preservation, page 22 of 29
The volume requirement for the sample container should be added to the Container Type column of the table.

Sampling Methods and Field Procedures:
Sample Collection and Handling, page 18 of 29

- Specify the project dredging and coring depths and the criteria for refusal during coring activities.
- The inner tube of the vibracore must first be removed and placed on deck where the contents (sediment) will then be described and classified, and then emptied into the mixing vat.

Sediment Chemical Analyses, pages 23 & 24 of 29

- The units reported in this section differ from those required in the RTM. It is important to use the units specified in the RTM for reporting analytical results and when submitting the data package for EPA review. If the appropriate units are not provided in the data reports, the analytical data quality assessment performed by EPA will not be conducted, nor will EPA perform the unit conversions. The package will be returned to the laboratory for reporting of the results in the correct units.
- The units reported in this section are not consistent with the units in Table 3 of Section 3.
- The MDLs for Chromium and Zinc exceed the MDL specified in the RTM. PPB must ensure that the MDLs reported by the lab meet the MDLs specified in the RTM.

Site Water/Elutriate Analyses, pages 25 & 26 of 29

- It is stated in this section that the same analytical methods used for sediment will be used for site water and elutriate analyses, however, the analytical methods proposed for metals in sediment differ from the methods proposed for site water/elutriate. This must be clarified.
- The units reported in this section are not consistent with the units used in Table 3 of Section 3, but the MDL value is the same. This must be corrected.
- If in fact the units presented in Section 1 are correct for Pesticides in site water/elutriate, then the MDLs for Aldrin, Chlordane, 2,4-DDT, Deildrin, Endosulfan II, and Heptachlor exceed the MDLs specified in the RTM. PPB must ensure that the MDLs reported by the lab meet the MDLs specified in the RTM.
- The MDL for PCBs exceeds the MDL specified in the RTM. PPB must ensure that the MDLs reported by the lab meet the MDLs specified in the RTM.
- The MDL for Mercury exceeds the MDL specified in the RTM. PPB must ensure that the MDLs reported by the lab meet the MDLs specified in the RTM.

Chemical Analyses of Tissue, pages 28 & 29 of 29
This section must be reviewed and revised for consistency with Table 3 of Section 3. There is inconsistency in units, wet weight vs. dry weight concentrations, and exceedences of the MDLs specified in the RTM. Please used the RTM for guidance on the proper reporting of units for all matrices and parameters.

Section 2
San Juan Harbor Sediment Project, Field QAPP
And Sediment Sampling Plan

Sample Collection and Handling, page 25 of 64
It is stated that the sediment in the vibracore tube will be placed on deck where the tube contents will be emptied into a stainless steel Teflon® coated mixing vat. Prior to emptying the sleeve, the sediment contents contained in the inner sleeve of the vibracore sampler must be removed for visual inspection, classification and description. After inspection and classification are complete the sleeve contents must be divided (if appropriate) for any stratified layers, homogenized and containerized separately.

Table 5-2. Sample Holding Times, Container Types and Preservation, page 29 of 64
The volume requirement for the sample container should be added to the Container Type column of the table.

Data Validation, Reduction and Reporting, page 32 of 64
The analytical results for the samples and Quality Control samples must be reviewed to the criteria specified in Table E.1 of the RTM and Table 5 of Section 3.

Corrective Actions, page 35 of 64
It is stated that corrective actions can be required when test parameters exceed predetermined limits of acceptability. Define the predetermined limits of acceptability. If the predetermined limits are those specified in Table 5, Data Quality Objectives, of Section 3, a reference may be made to Table 5 in this section.

Quality Assurance Reports to Management, page 35 of 65
What is included in the reports? Who are the reports to be sent to? What will be the frequency of the reports?

SOP for Vibracoring, Section 2.0 Procedures, page 40 of 64
EPA does not approve or endorse commercial products, such as Liqui-Nox. Please remove this statement. It may be rewritten to say "Brush the outside and inside of the barrel with a mixture of water and non-phosphate detergent, such as Liqui-Nox".

Section 3
San Juan Harbor Sediment
Chemical and Physical Evaluation QAPP

This Section's page numbering indicates that there are 23 pages to the QAPP, but only 17 appear in the document. The Columbia Analytical Services (CAS) Standard Operating Procedures that are referenced in the QAPP were not provided with this submittal.

A QAPP approval signature is required for all parties involved in the project's preparation and implementation. The approval page must be signed and dated.

Table 1. Sample Breakdown – Analytical Chemistry, page 4

- The Laboratory Control Sample should be included in the Sediment Samples Section.
- The QC samples are not included in the table for the Tissue Samples Section. The QC samples must be included in the table.

Table 2. Sample Holding Times, Container Types, and Preservation, page 6
The Spex containers specified for the metals analyses in tissue and sediment are not consistent with the containers specified in Table 3 of Section 1 and Table 5-2 of Section 2. The appropriate container type is acid washed HDPE.

Sample Preparation, page 8
It is stated that the data quality objectives for the QC samples are discussed in Section 5 of this QAPP. Section 5 was not submitted for review.

Table 3. Target Analytes and Associated Method Detection Limits, page 9 of 23

- Tissue MDLs were not reviewed, since Tissue is reported in dry weight and must be reported in both wet weight dry weight as indicated in the RTM.
- Water is reported in both ug/L and ng/L. Water is to be reported in ug/L as indicated in the RTM.
- The pesticide values in the MDLs table with the units of ng/L are extremely low MDLs (e.g., 0.01 ng/L converts to 0.00001 ug/L). It is not clear if the units presented in the table are a typographic error.
- This table must be thoroughly reviewed and revised with the appropriate corrections.
- Please see comments regarding MDLs in Section 1 above for consistency of reporting MDLs with the appropriate units.
- Explain how the MDLs used by the laboratory that exceed the MDLs specified in the RTM will be used and how they relate to the action levels for the project.

Elutriate Sample Generation, page 11
It is stated that site water and dredged material are mixed in a 4:1 ratio (by volume). The ratio should be defined, for example, a 4:1 water to sediment ratio (by volume).

Sample Preparation continued, pages 11 & 12
Several of the sample preparation procedures refer to CAS SOPs. CAS SOPs were not submitted with this QAPP.

Documentation, Data Reduction and Reporting, page 12
It must be stated in the QAPP that CAS Lab and PPB will also review the analytical results and QC results to the criteria specified in the RTM.

Sampling and Analytical Quality Control Procedures, page 13
The last paragraph on this page indicates how the laboratory will use the results of the SRM and lab QC samples. Although the laboratory may have its internal procedures and criteria for the QC samples, the RTM criteria must be applied when used for the Dredged Material Management Program. This paragraph must clarify that the lab QC performed for dredging projects will be reviewed to the criteria presented in the RTM and summarized in Table 5 of this QAPP.

Data Reporting, page 16
The units to be used for all water samples are ug/L. It is stated in this section that Tissue samples will be reported in both wet and dry weight; this was not conducted for the MDL tables provided in this QAPP.

Table 6. Data Qualifiers Metals and Organics
Define the MRL vs. the MDL for this QAPP and how each applies to the Dredged Material Management Program.

Define the data qualifiers to be used for indicating exceedences of the DQOs (i.e., Table 5).